

WHAT IS CLAIMED IS:

1. A method for identifying animals which have been marked with a laser dye coupled to a protein comprising:

aspirating a fluid sample containing a molecule to be detected past a matrix containing a reagent and an immunobinding partner for the molecule whereby any immunobinding partner in the sample binds to the molecule to be detected to form an immunological complex;

flowing a reagent tag through the matrix;

directing a laser to the matrix;

detecting the amount of light emitted by the reagent tag and correlating the amount of light emitted by the reagent tag to the amount of molecule to be detected in the sample.

2. The method according to claim 1 wherein the reagent tag is an antibody.

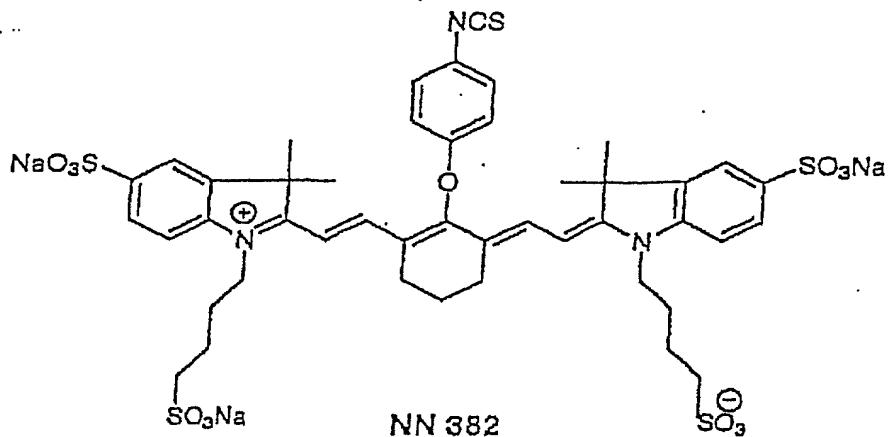
3. The method according to claim 1 wherein the reagent tag is an avidin tag binding to a biotinylated antibody attached to a specific antibody to the antigen coupled to the matrix.

4. The method according to claim 1 wherein a ligand is coupled to the matrix, wherein said ligand specifically binds the molecule to be detected.

5. The method according to claim 1 wherein the molecule to be detected is present in an eel.

6. The method according to claim 1 wherein the reagent tag comprises a laser dye and a labeling molecule,

wherein the laser dye has the formula:



7. Apparatus for detecting a molecule in vivo or in vitro comprising:

- a light source;
- a sample holder;
- an optical system comprising a lens; and
- a detector.

8. The apparatus according to claim 7 wherein the light source is a laser diode.

9. The apparatus according to claim 7 wherein the optical system comprises a fiber optic lens and a bandpass filter.

10. The apparatus according to claim 7 wherein the detector comprises a photodiode coupled to an LCD.

11. The apparatus according to claim 7 wherein the

sample holder comprises a tip having an enclosed analysis target area which is composed of a solid phase.

12. The apparatus according to claim 7 wherein the sample holder comprises a tip which is free of solid phase and is not enclosed.

13. The apparatus according to claim 7 wherein the sample holder is adapted to hold an eel.

14. The apparatus according to claim 13, wherein the diameter of the sample holder is reduced by inserting into the sample holder a tube with an internal diameter smaller than the sample holder.